

REMARKS

This communication is responsive to the Office Action mailed 14 June 2006.

In this paper, the Applicant has amended claims 2, 5, 13, 15, 18, 22, 24, 29, 37, 42, 43 and 46. The Applicant submits that these amendments are completely supported by the application as originally filed and contain no new matter.

Claims 1-46 are currently pending.

Allowable Subject Matter

The Examiner has indicated that claims 2-5, 13-16, 18, 19, 22, 24-31 and 36-42 would be allowable if rewritten in independent form to incorporate the features of their respective base claims and any intervening claims. The Applicant has done this by:

- amending claim 2 to incorporate the features of claim 1;
- amending claim 13 to incorporate the features of claim 1;
- amending claim 15 to incorporate the features of claim 1;
- amending claim 18 to incorporate the features of claim 17;
- amending claim 22 to incorporate the features of claims 17 and 21;
- amending claim 24 to incorporate the features of claim 17;
- amending claim 29 to incorporate the features of claim 17;
- amending claim 37 to incorporate the features of claim 32; and
- amending claim 42 to incorporate the features of claim 32.

Claim 5 has also been amended to remedy a typographical error. Claim 24 has also been amended for clarity. The amendments to claims 5 and 24 are submitted to not impact the scope of these claims.

Based on these amendments, the Applicant submits that claims 2, 13, 15, 18, 22, 24, 29, 37 and 42 are in condition for allowance. Claims 3-5, 14, 16, 19, 25-28, 30-31, 36 and 38-41 respectively depend from one of allowable claims 2, 13, 15, 18, 22, 24, 29 and 37 and claims 3-5, 14, 16, 19, 25-28, 30-31, 36 and 38-41 are submitted to be patentable for at least this reason.

Formalities Objections

The Examiner has objected to the inclusion of two claims numbered 41 and has suggested that the erroneously numbered second claim 41 should be renumbered. The Applicant has renumbered the erroneously numbered second claim 41 as claim 46. Claim 46 depends from properly numbered claim 41. As discussed above, properly numbered claim 41 is in condition for allowance. Accordingly, the Applicant submits that claim 46 is also in condition for allowance.

The Examiner has objected to originally filed claim 43 because it purported to depend from itself. The Applicant has amended claim 43 to depend from claim 42. As discussed above claim 42 is in condition for allowance. Accordingly, the Applicant submits that claim 43 is also in condition for allowance.

Claims 1 and 6-9

The Office Action raises US patent No. 5,481,544 (Baldwin et al.) in connection with claims 1 and 6-9. The Applicant submits that claims 1 and 6-9 patentably distinguish Baldwin et al.

As understood, Baldwin et al. disclose a method and apparatus for transmitting and/or receiving CDMA packets associated with different channels and multiplexing them into a single ATM channel. In Figure 5 and the accompanying description at col. 5, ln. 44-col. 6, ln. 3, Baldwin et al. disclose a flow chart depicting a process for encapsulating CDMA packets into ATM cells for transmission on an ATM network. Because the queued packets can become stale, the initialization operation (block 501) "*starts a timer*" which is used to help ensure that packets do not go stale simply because the system is waiting for more data to pack into an ATM cell. In block 503 a "timed-out" test is conducted to test how old the "*current partially constructed cell*" is". The length of time used to trip the timed-out test can be set depending on the type of information being sent, the perishability of the information and the priority of the information. If the timed-out test is positive, then the current cell is padded with filler and transmitted.

Claim 1 recites the combination of “accumulating data from the one or more data streams for each of a plurality of outgoing channels”, “scheduling an expiry time for the outgoing channel and associating the outgoing channel with the expiry time” and “when the expiry time occurs, using the association to identify a group of one or more outgoing channels associated with the expiry time and, for the outgoing channels in the group, sending the accumulated data.” The Applicant submits that Baldwin et al. fail to teach or suggest this combination of features.

As discussed above, Baldwin et al. disclose that the initialization operation (block 501) “starts a timer” for a particular ATM cell. In contrast, claim 1 recites “scheduling an expiry time for the outgoing channel and associating the outgoing channel with the expiry time.” Starting a timer as disclosed by Baldwin et al. is not equivalent to “scheduling an expiry time” as recited in claim 1. An expiry time is a static quantity. A timer, once started, is a varying quantity. Scheduling an expiry time requires knowledge of the current time in order to properly determine the expiry time. To schedule an expiry time, a timer keeping track of the current time must have already been started. Accordingly, the Applicant submits that Baldwin et al. do not disclose the claim 1 feature of “scheduling an expiry time for the outgoing channel and associating the outgoing channel with the expiry time.”

The Examiner expresses the view (on page 3 of the Office Action) that Baldwin et al. disclose “different timers for different types or priority levels, this corresponds to different timers for different channels” and that this aspect of Baldwin et al. is equivalent to the claim 1 feature of “using the association to identify a group of one or more outgoing channels associated with the expiry time and, for the outgoing channels in the group, sending the accumulated data.” With respect, the Applicant submits that the Examiner has misinterpreted the teachings of Baldwin et al. Baldwin et al. disclose the ability to associate a cell with *different lengths* of delay time. Baldwin et al. do not teach or suggest the possibility of associating *different cells or different channels* with a single expiry time as recited in claim 1. Accordingly, Baldwin et al. fail to disclose the claim 1 feature of “using the association to identify a group of one or more outgoing channels associated with the expiry time and, for the outgoing channels in the group, sending the accumulated data.”

Baldwin et al. do not disclose the possibility of accumulating data for “each of a plurality of channels” as recited in claim 1. In contrast, Baldwin et al. disclose queuing only one ATM cell at a time. Accordingly, Baldwin et al. do not teach or suggest the claim 1

feature of “accumulating data from the one or more data streams for each of a plurality of channels.”

Based on this reasoning, the Applicant submits that claim 1 patentably distinguishes Baldwin et al. Claims 6-9 depend from claim 1 and are submitted to patentably distinguish Baldwin et al. for at least this reason.

Claims 17, 20 and 23

The Office Action raises Baldwin et al. in connection with claims 17, 20 and 23. The Applicant submits that claims 17, 20 and 23 patentably distinguish Baldwin et al.

Claim 17 recites the combination of “assigning data from the data streams into fixed-size cells for transmission across connections in the telecommunication link”, “scheduling an expiry time for the partially-filled cell and associating the connection with the expiry time” and “when the expiry time occurs, using the association to identify a group of one or more connections for which there are partially-filled cells all associated with the expiry time and dispatching the partially-filled cells in the group.” For the reasons discussed above in relation to claim 1, the Applicant submits that Baldwin et al. fail to teach or suggest this claim 17 combination of features.

The Applicant submits that claim 17 patentably distinguishes Baldwin et al. Claims 20 and 23 depend from claim 17 and are submitted to be patentable for at least this reason.

Claims 32 and 35

The Office Action raises US patent No. 5,754,768 (Brech et al.) in connection with claims 32 and 35. The Applicant submits that claims 32 and 35 patentably distinguish Brech et al.

As understood by the Applicant, Brech et al. disclose a method and apparatus for enhancing the processing of a plurality of related packets received at a logical unit within a data processing system. Each of the plurality of packets are examined and a session ID is obtained from the header of each packet. The packets are then grouped into “packet train(s)” (i.e. group(s) of packets grouped together for processing) according to their session ID. If a packet train does not exist for an arriving packet, a new packet train is started and a packet

train timer is started. The packet train timer creates a time window (i.e. a period of time) during which packets sharing a common session ID are grouped together in a packet train. When a packet train timer corresponding to a particular packet train expires, all of the packets grouped into the particular packet train are sent to the host processor for processing. Different packet trains may have packet train timers beginning at different times.

Claim 32 recites “a *combined use timer* connected to control the transmission of partially-filled data *packets* over the telecommunication link”. According to this claim 32 feature, a single “combined use timer” is associated with a plurality of “partially-filled data packets” (i.e. one timer for many partially filled packets). Brech et al. fail to disclose this claim 32 feature. In contrast, Brech et al. clearly disclose that a timer is started for *each* newly created “packet train” (see col. 5, ln. 17-20 and Figure 6, block 220).

Claim 32 also recites “a data structure capable of holding information identifying groups of partially-filled packets which share a common expiry time”. The Examiner expresses the view (on page 5 of the Office Action) that Brech et al. disclose this feature at col.5, ln. 20-34. More particularly, the Examiner states that “the timer creates windows for the sessions; some sessions may have the same windows; when the window expires, the packet trains are sent for processing.” With respect, the Applicant submits that the cited passage of Brech et al. do not disclose a “data structure” having the features recited in claim 32. As clearly described by Brech et al., a timer is started for *each* newly created packet train (see col. 5, ln. 17-20 and Figure 6, block 220). While it is true that some packet trains may have the same time windows, such an occurrence would, in the Brech et al. system, depend completely on the time of the arrival of the first packet in each packet train (i.e. the timer start time) and the length of the window corresponding to each packet train. Brech et al. do not teach or suggest a data structure for “holding *information identifying groups of partially filled packets* which share a common expiry time”.

Based on this reasoning, the Applicant submits that claim 32 patentably distinguishes Brech et al. Claim 35 depends from claim 32 and is submitted to be patentable over Brech et al. for at least this reason.

Claims 10-12 and 21

The Office Action raises the combination of Baldwin et al. and Brech et al. in connection with claims 10-12 and 21. The Applicant submits that claims 10-12 and 21 patentably distinguish the combination of Baldwin et al. and Brech et al.

Claims 10-12 depend from claim 1. As discussed above, Baldwin et al. do not disclose or suggest the claim 1 combination of “accumulating data from the one or more data streams for each of a plurality of outgoing channels”, “scheduling an expiry time for the outgoing channel and associating the outgoing channel with the expiry time” and “when the expiry time occurs, using the association to identify a group of one or more outgoing channels associated with the expiry time and, for the outgoing channels in the group, sending the accumulated data.” The Applicant submits that Brech et al. fail to remedy this deficiency.

Based on this reasoning, the Applicant submits that claims 10-12 patentably distinguish the combination of Baldwin et al. and Brech et al.

Claim 21 depends from claim 17. As discussed above, Baldwin et al. do not disclose or suggest the claim 17 combination of “assigning data from the data streams into fixed-size cells for transmission across connections in the telecommunication link”, “scheduling an expiry time for the partially-filled cell and associating the connection with the expiry time” and “when the expiry time occurs, using the association to identify a group of one or more connections for which there are partially-filled cells all associated with the expiry time and dispatching the partially-filled cells in the group.” The Applicant submits that Brech et al. fail to remedy this deficiency.

Based on this reasoning, the Applicant submits that claim 21 patentably distinguishes the combination of Baldwin et al. and Brech et al.

Claims 33, 34 and 45

The Office Action raises the combination of Brech et al. and Baldwin et al. in connection with claims 33, 34 and 45. The Applicant submits that claims 33, 34 and 45 patentably distinguish the combination of Brech et al. and Baldwin et al.

Claims 33, 34 and 45 depend from claim 32. As discussed above, Brech et al. fail to teach or suggest the claim 32 features of “a combined use timer connected to control the

transmission of partially-filled data packets over the telecommunication link” and “a data structure capable of holding information identifying groups of partially-filled packets which share a common expiry time.” The Applicant submits that Baldwin et al. fail to remedy this deficiency.

Based on this reasoning, the Applicant submits that claims 33, 34 and 45 patentably distinguish the combination of Brech et al. and Baldwin et al.

Claim 44

The Office Action raises the combination of Brech et al. and US patent publication No. 2002/0145974 (Saidi et al.) in connection with claim 44. The Applicant submits that claim 44 patentably distinguishes the combination of Brech et al. and Saidi et al.

Claim 44 depends from claim 32. As discussed above, Brech et al. fail to teach or suggest the claim 32 features of “a combined use timer connected to control the transmission of partially-filled data packets over the telecommunication link” and “a data structure capable of holding information identifying groups of partially-filled packets which share a common expiry time.” The Applicant submits that Saidi et al. fail to remedy this deficiency.

Based on this reasoning, the Applicant submits that claim 44 patentably distinguishes the combination of Brech et al. and Saidi et al.

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Conclusion

The Applicant submits that the foregoing amendments place this application in condition for allowance. The Applicant respectfully requests reconsideration and allowance of this application.

Respectfully submitted,
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